NO FOREIGN DISSEM
CIA INTERNAL USE ONLY

SC NO. 04455/67
COPY
54

THIS DOCUMENT CONTAINS CODE WORD MATERIAL

WARNING

This document contains classified information affecting the national security of the United States within the meaning of the espionage laws, US Code, Title 18, Sections 793, 794, and 798. The law prohibits its transmission or the revelation of its contents in any manner to an unauthorized person, as well as its use in any manner prejudicial to the safety or interest of the United States or for the benefit of any foreign government to the detriment of the United States.

THIS DOCUMENT MUST BE KEPT IN COMMUNICATIONS INTELLIGENCE CHANNELS AT ALL TIMES

It is to be seen only by US personnel especially indoctrinated and authorized to receive COMMUNICATIONS INTELLIGENCE information; its security must be maintained in accordance with COMMUNICATIONS INTELLIGENCE REGULATIONS.

No action is to be taken on any COMMUNICATIONS INTELLIGENCE which may be contained herein, regardless of the advantages to be gained, unless such action is first approved by the Director of Central Intelligence.

GROUP 1
EXCLUDED FROM AUTOMATIC DOWNGRADING AND DECLASSIFICATION

CENTRAL INTELLIGENCE AGENCY
Directorate of Intelligence

INTELLIGENCE MEMORANDUM

Analysis of Israeli Destruction of Arab Air Forces

Summary

Most of the 440 Arab aircraft claimed to have been destroyed by the Israeli Air Force were caught on the ground by low-level strafing attacks. Available evidence suggests that success was attributable largely to standard weapons, skillful flying, and excellent intelligence -- despite [redacted] giving the impression that some secret weapons were responsible for phenomenal accuracies. Moreover, Arab protective and defensive measures were minimal.

The Israelis attained tactical surprise by approaching targets at very low altitudes and from unexpected directions. [redacted] Low altitude and low speed, combined with excellent gunnery, were apparently the

25X1C

25X1C

25X1C

Note: This memorandum was produced solely by CIA. It was prepared by the Office of Research and Reports and coordinated with the Offices of Current Intelligence and National Estimates and with the Directorate of Science and Technology; the estimates and conclusions represent the best judgment of the Directorate of Intelligence as of 23 June 1967.

SC No. 04455/67

principal contributors to the effectiveness of Israeli attacks. In general, Arab runways and radars were put out of action first and then the aircraft on the ground were systematically destroyed.

25X1C [redacted]

25X1C [redacted]

25X1C [redacted] A major Israeli effort clearly was assigned to damaging runways to make them unusable.

Another "new weapon" has been referred to only in press speculation. It is described as a fragmentation bomb with a guidance system, is supposed to be about 12 feet long, and is alleged to have been used against aircraft on the ground. However, [redacted] Arab wreckage indicates damage most consistent with strafing.

25X1C

25X1C

Attack Tactics

1. Israeli jet planes did not leave their home bases for the attack on major airfields in Egypt until about 0845 local time (0545Z) on the fifth of June. This timing -- some four to five hours after dawn -- apparently contributed to the element of surprise. The Israelis then depended upon poor communications between the Arab states to give them time to finish the Egyptian Air Force before turning their attention to Syria and Jordan. An initial wave of attacks was carried out simultaneously against a number of Egyptian fields, and a total of 25 Arab fields were attacked during the first day.

2. Israeli tactics were simple and effective. The attacks were planned to take the Arab air forces by surprise. The approach to the targets was made through gaps in radar coverage and from unexpected directions. Some Israeli planes, upon take-off, flew out over the Mediterranean before heading for enemy targets. Approach from the northwest added to the element of surprise. The entire mission, including attacks, was apparently flown at a very low level, something like 150 feet and probably no higher than 500 feet. This minimized the risk of detection, made interception by aircraft extremely difficult, and enabled the Israeli pilots to make very sure of their fire. [redacted]

25X1C

[redacted]

25X1C

There is a lack of information on how the attack was carried out at each airfield, with the exception of

Damascus. The US Army attaché reported that 16 Israeli aircraft attacked the Damascus airfield four times, each attack consisting of four planes. Only on the second attack were rockets used. All four planes attacked with bombs on the first pass. The planes with rockets fired them on the second pass. All other passes involved strafing of targets on the ground.

4. Syrian air defense artillery fired some 1,000 to 1,500 feet above the attacking forces. Either their guns could not fire at lower altitudes or the attack so unnerved Syrian gunners that they failed to reset the fuzes of their shells. Low altitude and low speed, combined with excellent gunnery, were the principal contributors to the accuracy of Israeli attacks. Israeli planes made three and four passes at target airfields. Some planes reportedly made as many as eight sorties on the first day of the battle.

25X1D 5. [redacted] 25X1D

[redacted] 25X1C

[redacted] 25X1C

By nightfall of the first day of the war, Israel had destroyed the bulk of the Arab air forces and was in control of the air in the war zone.

6. The destruction of the Arab aircraft was characterized by accuracy against individual targets and by extensive destruction of aircraft at the fields under attack. Dummy aircraft did not appear to have been damaged, but this discrimination may have been more apparent than real, however, since the cannon rounds, which had devastating effects on fueled aircraft, would have little effect on the dummies.

7. The observed damage to Arab aircraft could have been caused by the use of armor-piercing incendiary ammunition in the 30-mm cannon with which most Israeli aircraft are armed. There is no independent evidence that this type of ammunition was used, but Israel is capable of producing all types of ammunition. The light armor and self-sealing fuel tanks of Soviet aircraft could not provide protection against such ammunition. 25X1C

[redacted]

Arab Ineffectiveness

9. A major contribution to Israeli success undoubtedly was the miscalculation by the Arabs as to Israeli intentions and Arab strength in relation to that of Israel. Failure to anticipate the Israeli attack was another major factor. 25X1D 25X1D [redacted] Once over their targets, the Israeli aircraft encountered weak and ineffective air defense artillery. Moreover, there is some evidence that in the first few hours of the attack the Egyptian air defense apparatus fell into confusion and that communications virtually broke down. Finally, no protective or defensive measures appear to have been taken despite the existence of a crisis which, it was widely assumed, would culminate in war.

25X1C

10. A striking feature [redacted] is the apparent lack of Arab preparation against attack. 25X1C For example, [redacted] three or more aircraft parked wingtip to wingtip in the open. Apparently very little effort was made to disperse or camouflage aircraft, and apparently no attempt was made to build additional revetments. 25X1C [redacted]

25X1C

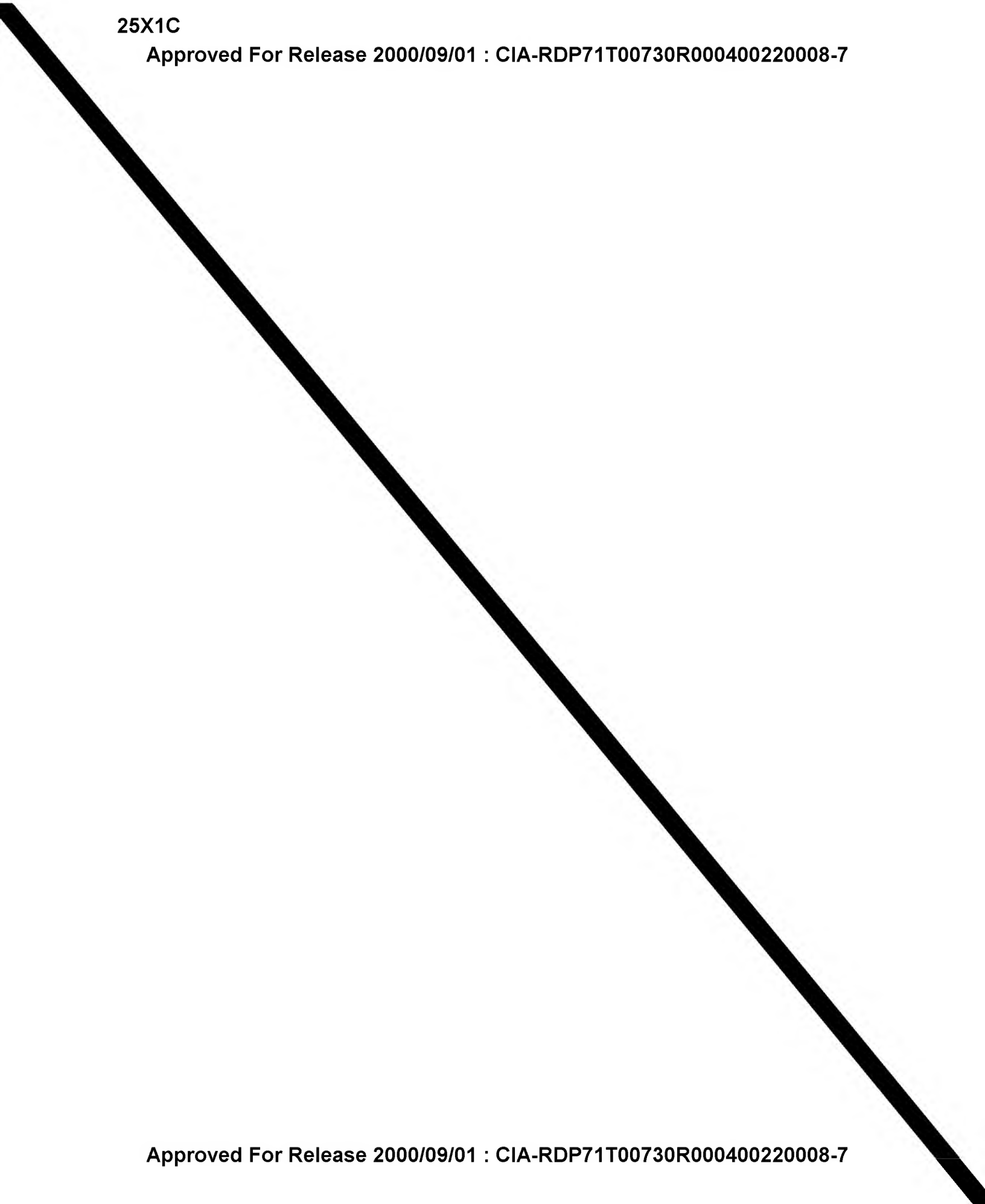
Israeli Aircraft

11. Prior to the outbreak of hostilities, the Israeli Air Force consisted of some 260 jet aircraft and a number of transports, helicopters, trainers, and utility aircraft. (See the table for data on the principal Israeli jet aircraft.) The fighter/bomber aircraft are of French manufacture with the exception of the Fouga-Magister jet trainer, which is of French design but was manufactured by Israel under licence. All aircraft are capable of carrying high explosive or napalm bombs. Most carried air-to-air or air-to-surface rockets. With the exception of the Fouga-Magister, which carried machineguns, and the Ouragan, which carried 20-mm cannon, all aircraft are equipped with 30-mm cannons.

12. The fighter/bombers have radius of action varying from 100 to 375 nautical miles. This is adequate, even with the additional mileage required by diversionary tactics, to accomplish the destruction of the Arab air forces. (The map, Figure 3, shows the location of Israeli and Arab airfields.)

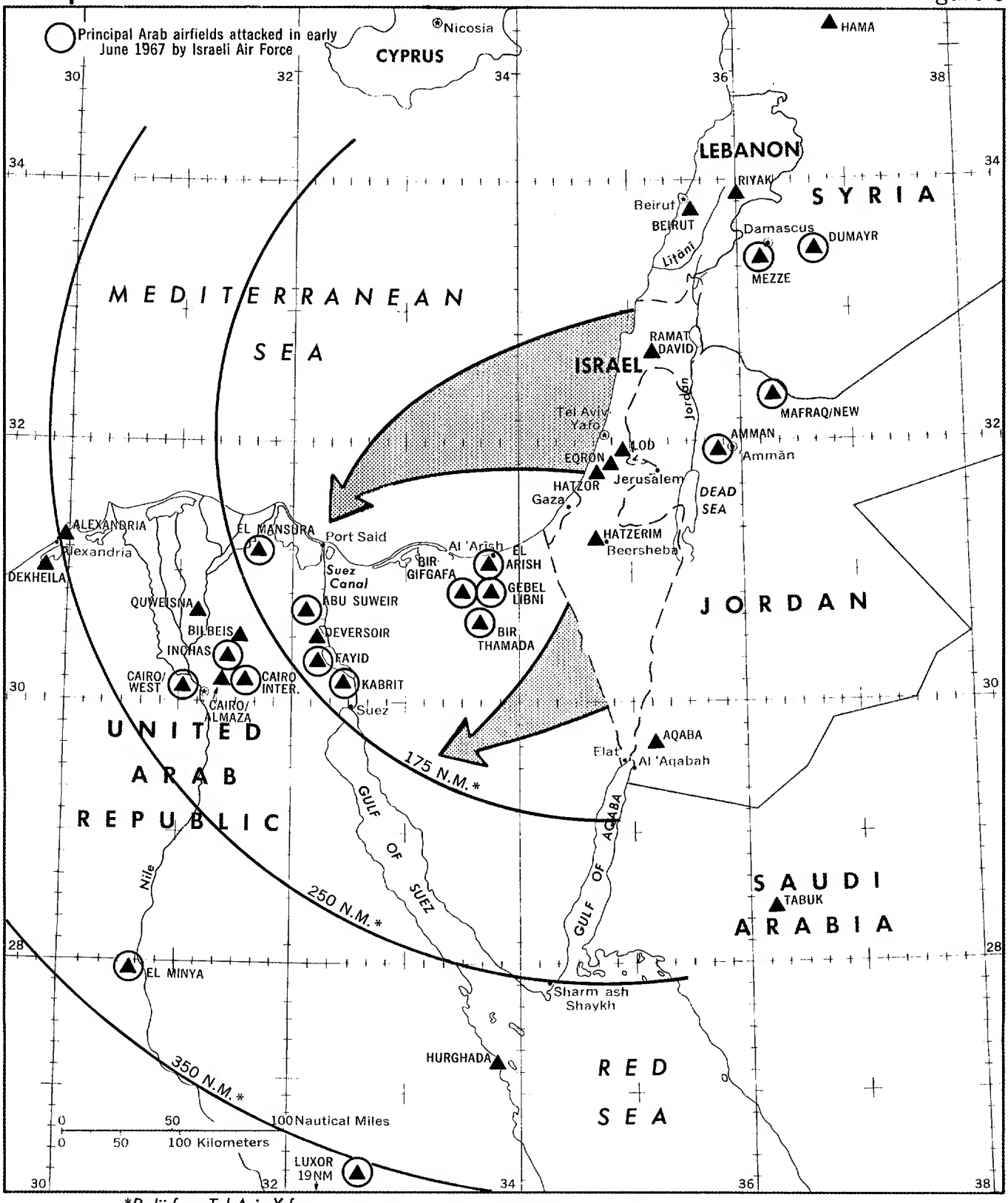
New Weapons

13. It is obvious from photography that Israeli attacks on Arab aircraft were extremely accurate. Two new weapons were reportedly used during the war. This has given rise to tales of secret weapons to account for both the accuracy of Israeli attacks and the large numbers of enemy aircraft destroyed.



Principal Israeli and Arab Airfields

Figure 3



*Radii from Tel Aviv-Yafo

56697 6-67 CIA

[redacted] 25X1C

25X1C

25X1C

Although it is reasonably certain that a major Israeli effort was successfully directed against runways, there is no independent verification that a new type of bomb was used.

15. Another "new weapon" has been referred to only in press speculation. It is alleged to have been used against aircraft on the ground. It is described as a 12-foot fragmentation bomb with a guidance system. Each Israeli aircraft was alleged to carry two of them. On balance, there are at least two factors which militate against the foregoing being an accurate description. The impact of a 12-foot fragmentation bomb on an aircraft would scatter wreckage over a considerable distance and would create a noticeable crater. None of the [redacted] Arab wreckage show these effects. The damage observed is more nearly consistent with that which could have been caused by 30-mm cannon.

25X1C 25X1C

Training, Maintenance, and Morale

16. High standards of training, maintenance, and morale, although not quantifiable, made a substantial contribution to Israel's success. The US Air Force is apparently the Israeli model, and the training for both aircrews and ground crews, which follows conventional lines, is intensive and thorough. The Israeli Air Force reputedly flies more hours per pilot than any other air force in the world. A gunnery

25X6 and bombing range provides live firing practice against all kinds of targets. [redacted] 25X6

17. The Israeli Air Force is maintained on a constant alert basis and actual combat is not only an ever-present possibility, but also relatively common. From November 1966 to the June 1967 outbreak of hostilities, there were three air-to-air clashes in which a total of eight to ten Arab aircraft were downed.

18. A high degree of self-sufficiency in aircraft maintenance has contributed greatly to the superiority of the Israeli Air Force over the Arab air forces. The Israeli Air Force is capable of performing most of its own major maintenance. It depends on the Israeli aircraft industries for maintenance which it cannot perform.

19. The Israeli Air Force is widely acclaimed for its high morale. Israeli pilots are known as daredevils, although in reality this reflects their aggressiveness and excellent training. They will push their aircraft beyond recommended safety limits when circumstances require. They display absolute confidence in themselves and their equipment. This confidence undoubtedly contributed to the Israeli success in the war. The extent of the damage done not only to Arab aircraft but also to Arab ground forces demonstrates the thoroughness and determination with which Israeli pilots pressed their attacks.

25X1C

[redacted]

Israeli gunnery was highly accurate and that the Arab aircraft were destroyed by burning or explosion of the fuel tanks. 25X1C

25X1C [redacted] Observable damage is therefore attributed to weapons known to have been in the Israeli inventory prior to the Mid-East crisis.

Characteristics of Principal Israeli Aircraft as of 1 June 1967

Aircraft	Type	Radius of Action a/ (Nautical Miles)	Armament	Number
Mirage III C	All-weather interceptor and day ground attack fighter	285 with heavy load and no external fuel	Two high explosive or napalm bombs (up to 1,000 pounds each)	62
		315 with reduced load and small external fuel load	Two rocket pods	
			Two AAM - Sidewinder or one Matra R 530	
			Two 30-mm cannon	
Mirage III B	Probably reconnaissance			3
Super Mystere IV B2	Interceptor and ground support	300 to 325 with auxiliary fuel tanks	Two high explosive or napalm bombs (up to 1,000 pounds each) if no auxiliary fuel tanks	29
			Two rocket launchers	
			Two 30-mm cannon	
Mystere IV A	Interceptor	225 to 275 with auxiliary wing tanks	Two high explosive or napalm bombs (up to 1,000 pounds each)	35
			Two antiaircraft rockets	
			Two 30-mm cannon (air-to-surface rockets can be carried in lieu of bombs)	

TOP SECRET TRINE

Approved For Release 2000/09/01 : CIA-RDP71T00730R000400220008-7

Characteristics of Principal Israeli Aircraft as of 1 June 1967
(Continued)

Aircraft	Type	Radius of Action (Nautical Miles)	Armament	Number
Ouragan MD 450	Fighter/ground support	225 to 275 with auxiliary fuel tanks	External stores vary, can carry up to 3,400 pounds Four 20-mm cannon	52
Vautour II A	Ground support fighter Six modified to fighter/bomber One modified to trainer One modified to reconnaissance	375 with auxiliary fuel tanks	Variety of bomb loads in bomb bay and attached to wing pylons Four 30-mm cannon (may carry rocket launchers)	16
Vautour II B	Light bomber			2
Fouga-Magister	Trainer and ground support	100 to 125 with non-jettisonable tanks	Two small bombs (one under each wing) Under wing racks can carry air-to-ground rockets Two 7.5-mm or 7.62-mm machine guns	60

a. All values for radius of action are estimates of lo-lo-lo ground-support mission, based on conversion of performance from hi-lo-hi missions. Accuracy may vary within 15 to 20 percent.

TOP SECRET TRINE

Approved For Release 2000/09/01 : CIA-RDP71T00730R000400220008-7

Approved For Release 2000/09/01 : CIA-RDP71T00730R000400220008-7